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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/732,992	12/11/2003	Shyam Kumar Verma	208-6139CT	8307
826	7590	03/30/2006	EXAMINER	
ALSTON & BIRD LLP BANK OF AMERICA PLAZA 101 SOUTH TRYON STREET, SUITE 4000 CHARLOTTE, NC 28280-4000			KHAN, AMINA S	
			ART UNIT	PAPER NUMBER
			1751	

DATE MAILED: 03/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/732,992

Applicant(s)

VERMA ET AL.

Examiner

Amina Khan

Art Unit

1751

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 43-63 and 73-77 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 43-63 and 73-77 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

Claims 43-63 and 73-77 are pending.

In view of applicant's amendments filed on March 15, 2006, the 35 USC 103(a) rejection of claims 43-78 and 89-91 in view of Verma et al. (US 6,004,476) is withdrawn. New grounds for rejection are recited below.

### ***Claim Objections***

Claim 75 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The percentage limitations for the metal hydroxides recited in claim 75 are identical to those already present in claim 73, therefore claim 75 fails to further limit claim 73.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 43-63 and 73-77 are rejected under 35 U.S.C. 103(a) as being obvious over Verma et al. (US 6,004,476) in view of Chandler et al. (US 5,577,388).

The primary reference of Verma et al. teaches absorption solutions for use in refrigeration systems (column 2, lines 29-32) with corrosion inhibiting effects (column 2, lines 29-32) comprising at least one heteropoly complex ion of transition metal element (column 2, 21-24) and at least one additional additive (column 2, lines 32-35) as claimed in claims 43-45. Verma further teaches the claimed heteropoly complex ions (column 3, lines 15-48) of the formulas claimed in claim 46, where X is phosphorous, manganese, tellurium or arsenic (column 3, line 67; column 4, line 1) and M is molybdenum or tungsten (column 4, lines 45-47) as claimed in claim 47. Verma further teaches heteropoly complex anion selected from phosphomolybdates of the formula  $[\text{PMo}_{12}\text{O}_{40}]^{-3}$ , silicon molybdates, silicon tungstates, tellurium molybdates, arsenic molybdates, and mixtures thereof (column 4, lines 14-29) as claimed in claims 48,49,73 and 74.

Verma further teaches additional transition metal salts which are different from the transition metals of the heteropoly anion complex, where the metal is chosen from cobalt, nickel, tungsten, zirconium, manganese and chromium and the salts are chosen from nitrates, halides, and oxides (column 4, lines 50-61) as claimed in claims 50-56 and 74.

Verma further teaches additional additives which are salts of metallic elements of Groups IIIa to VIa where the salts are chosen from oxides, sulfides, nitrates, or halides and the metals may be antimony and the compound may be antimony bromide, germanium bromide, arsenic bromide, and bismuth bromide (column 4, lines 62-67; column 5, lines 1-10) as claimed in claims 57-63,76 and 77.

Verma does not teach absorption compositions comprising 20-80 weight percent alkali metal hydroxides, alkaline metal earth hydroxides, or mixtures thereof.

The secondary reference of Chandler et al., in the analogous art of absorption fluids for use in refrigeration systems (column 4, lines 15-20), teaches absorption working fluids comprising between 30-80% alkali metal hydroxides (column 1, line 65 to column 2, line 20).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the absorption fluids taught by Verma et al. by incorporating the hydroxides at the claimed percentages as taught by Chandler et al. because Chandler et al. teaches the utility of using hydroxides in absorption fluids suitable for refrigeration systems. It is prima facie obvious to combine the two compounds, each taught for the same purpose, to yield a third composition for that very purpose. *In re Kerkhoven*, 205 USPQ 1069, *In re Pinten*, 173 USPQ 801, and *In re Susi*, 169 USPQ 423 when ingredients are well known and combined for their known properties, the combination is obvious absent unexpected results. A person of ordinary skill in the refrigerant art would expect combinations of these materials to behave in the same fashion as the individual materials, absent unexpected results.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amina Khan whose telephone number is (571) 272-5573. The examiner can normally be reached on Monday through Friday, 8:30-5.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas McGinty can be reached on (571) 272-1029. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Amina Khan, PhD  
Patent Examiner  
March 23, 2006



MARGARET EINSMANN  
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